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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/591,258	06/09/2000	Mark Leach	12900-0100	2469

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EXAMINER

LEE, CHRISTOPHER E

ART UNIT	PAPER NUMBER
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2189

DATE MAILED: 11/13/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/591,258

Applicant(s)

LEACH, MARK

Examiner

Christopher E. Lee

Art Unit

2189

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Receipt Acknowledgement

1. Receipt is acknowledged of the request filed on 6th of October 2003 for a Request for Continued Examination (RCE) under 37 CFR 1.114 based on the Application No. 09/591,258, which the request is acceptable and an RCE has been established. Claims 13-19 have been amended; no claim has been canceled; and no claim has been newly added since the Office Action was mailed on 31st of March 2003. Currently, claims 12-21 are pending in this application.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thornborough et al. [US 5,031,209; hereinafter Thornborough] in view of Schnell [US 6,199,133 B1] and Segur [US 6,212,550 B1].

Referring to claim 12, Thornborough disclose a system (i.e., automatic meter reading 10 of Fig. 1) for monitoring and transmitting utility status (See col. 4, line 51 through col. 5, line 2 and col. 6, lines 62-68) via a universal communications interface (i.e., FSK BELL transmitter 53, FSK CCITT transmitter 54, line 61, buffer 62 and MUX 55 of Fig 3 as combined), comprising: an input interface (i.e., transducer circuit 252 of Fig. 6) operative to receive a utility status signal (i.e., meter pulses 246 and lead line status 247 of Fig. 6) from a utility meter (i.e., utility meter 250 of Fig. 6); a processor (i.e., micro-computer 22 of Fig. 1) functionally coupled to said input interface for receiving said utility status signal from said input interface (See col. 5, lines 7-11 and 20-24) and operative to generate a status message (i.e., Transmitted Data to Call Collection Module; See col. 16, lines 10-15 and 29-40) based on said utility status signal; a universal communications interface (i.e., FSK BELL transmitter 53, FSK CCITT transmitter 54, line 61, buffer 62 and MUX 55 of Fig 3 as combined) functionally coupled to said

processor (See col. 6, lines 51-55), and configurable for communicating with a communication device (i.e., telephone modem) operative to communicate with a receiving device (i.e., computer of utility control center; See col. 4, lines 29-49) via a communication medium (i.e., telephone line; See col. 1, lines 19-25).

Thornborough does not teach said universal communications interface is configurable for communicating with a plurality of different types of communication devices, each different type of communication device operative to communicate with a receiving device via one of a plurality of different communication mediums; and a slot functionally coupled to said universal communications interface and configured to interchangeably connect one of said plurality of different types of communication devices.

Schnell discloses a universal communications interface (i.e., network system in Fig. 2A), wherein said universal communications interface is configurable for communicating with a plurality of different types of communication devices (See col. 5, lines 18-49; configurable for Ethernet, Token Ring, VG, ARCnet, FDDI, CDDI, ATM, etc.), each different type of communication device operative to communicate with a receiving device (i.e., other device being coupled to Network; See col. 1, lines 54-57) via one of a plurality of different communication mediums (i.e., conductive wire, fiber optic cable, etc.; See col. 6, lines 20-22); and a slot (i.e., slots 202a-1 in Fig. 2A) functionally coupled to said universal communications interface (See col. 6, lines 35-45) and configured to interchangeably connect one of said plurality of different types of communication devices (See col. 6, lines 24-28; i.e., wherein in fact that the slot connectors are configured to plug into the slots of the bus to enable communication implies that said slot is configured (i.e., slot connector is configured for said communication) to interchangeably (i.e., capable of being interchanged) connect (i.e., inserted into slot) one of said plurality of different types of communication devices (i.e., any one of devices for Ethernet, Token Ring, VG, ARCnet, FDDI, CDDI, ATM, etc.)); wherein a processor (i.e., computer system 116 of Fig. 1) communicates with said universal

communications interface (See col. 5, lines 18-30) to determine which one of said plurality of different types of communication devices is connected to said slot (See col. 5, line 66 through col. 6, line 17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said universal communications interface (i.e., network system), as disclosed by Schnell, in said system, as disclosed by Thornborough, so as to communicate to multiple network devices (See Schnell, Fig. 1) with the advantage of enabling management of a plurality of network devices of said universal communications interface (i.e., network system). Refer to Schnell, col. 2, lines 49-51.

Thornborough, as modified by Schnell, does not expressly teach said processor formats said status message into a format compatible with said connected communication device and transmits said formatted status message to said universal communications interface for transmission to said connected communications device.

Segur discloses a multi-format communications client-server 50 (Fig. 2), wherein a processor (i.e., controller and processor 68 in Fig. 2) formats (i.e., converts) a status message (i.e., selected messages) into a format compatible (i.e., convert the messages to appropriate data format; See block 178 in Fig. 6 and col. 2, lines 47-50) with a connected communication device (i.e., a subscriber unit generating the message retrieval query; See Claim 1) and transmits said formatted status message to a universal communications interface (i.e., communications interfaces 66 of Fig. 2) for transmission to said connected communications device (i.e., transmit to the subscriber unit; See block 180 in Fig. 6 and col. 3, lines 62-65; i.e., wherein in fact that once the conversion is complete, the messages are transmitted to the subscriber unit implies that said processor (i.e., controller and processor) transmits said formatted status message to said universal communications interface (i.e., communications interfaces) for transmission to said connected communications device (i.e., subscriber unit)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said features of said controller and processor, as disclosed by Segur, in said

processor, as disclosed by Thornborough, as modified by Schnell, for the advantage of providing a message formatting (i.e., format conversion feature) for said universal communication interfacing (i.e., multi-format communications), such that said processor (i.e., controller and processor) formats (i.e., converts) said status message (i.e., message) in a compatible format with a data format of said connected communication device (i.e., subscriber unit), and transmits it to said connected communication device (i.e., subscriber unit). Refer to Segur, Abstract and Claim 1.

Referring to claim 13, Thornborough, as modified by Schnell and Segur, teaches said plurality of different communication mediums are telephone lines (i.e., telephone interface circuit 42 of Fig. 1; Thornborough), cable lines (i.e., Ethernet cable; See Schnell, col. 5, lines 37-38) or fiber optic lines (i.e., FDDI; See Schnell, col. 5, line 39).

4. Claims 14, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thornborough [US 5,031,209] in view of Schnell [US 6,199,133 B1] and Segur [US 6,212,550 B1] as applied to claims 12 and 13 above, and further in view of Turino et al. [US 5,994,892 A; hereinafter Turino].

Referring to claim 14, Thornborough, as modified by Schnell and Segur, teaches all the limitations of the claim 14 except that does not teach said utility status signal comprises an analog wave form; and wherein said input interface comprises an analog-to-digital converter operative to convert said analog wave form into a digital signal representing a utility status.

Turino discloses a direct read circuitry (See col. 6, lines 65-67) in an automatic utility meter (Fig. 12), wherein an utility status signal (i.e., sampled input power) comprises an analog wave form (See col. 7, lines 25-28); and wherein an input interface (i.e., A/D U4 of Fig. 12) comprises an analog-to-digital converter (See col. 17, lines 41-55) operative to convert said analog wave form into a digital signal representing a utility status (See col. 7, lines 29-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said direct read circuitry, as disclosed by Turino, in said system, as disclosed by Thornborough, as modified by Schnell and Segur, for the advantage of providing a capability of performing power usage calculation (See Turino, col. 13, lines 60-65).

Referring to claims 17 and 18, Thornborough, as modified by Schnell and Segur, teaches all the limitations of the claims 17 and 18, respectively, except that does not teach said utility status signal is received from a voltage monitor and a current monitor of said utility meter.

Turino discloses a direct read circuitry (See col. 6, lines 65-67) in an automatic utility meter (Fig. 12), wherein an utility status signal is received from a voltage monitor (i.e., voltage transformer) of said utility meter, and an utility status signal is received from a current monitor (i.e., current sensor) of said utility meter (See col. 7, lines 12-28; i.e., wherein in fact that a voltage transformer and a current sensor are the two devices used to achieve voltage and current reduction, and the meter shall sample secondary side sinusoidal voltage and current analog waveforms for conversion to digital values implies that said utility status signal is received from said voltage monitor (i.e., voltage transformer) and said current monitor (i.e., current sensor) of said utility meter).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said direct read circuitry, as disclosed by Turino, in said system, as disclosed by Thornborough, as modified by Schnell and Segur, for the advantage of providing a capability of performing power usage calculation (See Turino, col. 13, lines 60-65).

5. Claims 15, 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thornborough [US 5,031,209] in view of Schnell [US 6,199,133 B1] and Segur [US 6,212,550 B1] as applied to claims 12 and 13 above, and further in view of Davis [US 6,118,269 A].

Referring to claims 15, 16 and 19, Thornborough, as modified by Schnell and Segur, teaches all the limitations of the claims 15, 16 and 19, respectively, except that does not teach said utility status

signal is received from a connect/disconnect monitor, a tamper detection monitor, and an outage notification monitor of said utility meter.

Davis teaches an electric meter tamper detection circuit (Fig. 7), wherein an utility status signal is received from a connect/disconnect monitor of a utility meter (i.e., METER in Fig. 7; See col. 12, lines 10-21; i.e., wherein in fact that while the gateway is coupled to the power meter, the voltage drop across the power meter is relatively small, and when the gateway is unconnected, the voltage is increased, then the monitored indication of coupled/uncoupled of the power meter is provided to a microprocessor implies that said utility status signal is received from said connect/disconnect monitor), an utility status signal is received from a tamper detection monitor of said utility meter (See col. 2, lines 42-61), and an utility status signal is received from an outage notification monitor of said utility meter (See col. 13, lines 41-44; i.e., wherein in fact that the system supports outages detected by the network controller (viz., the function of outage notification) when a gateway fails to respond to a poll (i.e., monitoring) implies that said utility status signal is received from said outage notification monitor of said utility meter).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said electric meter tamper detection circuit, as disclosed by Davis, in said system, as disclosed by Thornborough, as modified by Schnell and Segur, for the advantage of providing said system capable of detecting electrical meter tampering which will eliminate false tamper alert, and of notifying a remote headend if and when an electrical meter has been removed (See Davis, col. 2, lines 37-41).

6. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thornborough [US 5,031,209] in view of Schnell [US 6,199,133 B1] and Segur [US 6,212,550 B1] as applied to claims 12 and 13 above, and further in view of Curt et al. [US 6,360,177 B1; hereinafter Curt].

Referring to claim 20, Thornborough, as modified by Schnell and Segur, teaches all the limitations of the claim 20 including a memory storage (i.e., ROM of microcomputer memory)

functionally coupled to said processor for storing computer-executable instructions (i.e., operating program) executed by said processor (See Thornborough, col. 5, lines 16-20) except that does not teach said computer-executable instructions cause said processor to determine whether said utility status signal exceeds a threshold value and, if so, to generate said status message.

Curt discloses a monitoring unit (Fig. 4) in a voltage scanning, measurement, storage and reporting device, wherein computer-executable instructions (See col. 6, lines 6-16 and col. 24, lines 28-35) cause a processor (i.e., digital microprocessor 435 of Fig. 4) to determine whether a utility status signal (i.e., voltage waveform information) exceeds a threshold value (See col. 17, line 65 through col. 18, line 5) and, if so, to generate a status message (See col. 13, lines 20+).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said monitoring unit, as disclosed by Curt, in said system, as disclosed by Thornborough, as modified by Schnell and Segur, for the advantage of monitoring said utility status signal (i.e., AC input voltage) provided through said utility meter (i.e., outlet; Curt), and analyzing the monitored waveform (See Curt, col. 2, lines 17-24).

Referring to claim 21, Thornborough, as modified by Schnell, Segur and Curt, teaches said memory storage (i.e., RAM of microcomputer memory; Thornborough) stores data relating to signal formats compatible with each of said plurality of different types of communication devices (See Segur, Abstract; i.e., wherein in fact that the memory stores a number of messages in a number of communication format implies that the combined apparatus (i.e., said system) has said memory, which stores data (i.e., message) relating to signal formats (i.e., communication format) compatible with each of said plurality of different types of communication devices (i.e., a number of communication format)).

Response to Arguments

7. Applicant's arguments, see Claim Objections on page 4, filed on 6th of October 2003 (hereinafter the Response), with respect to the objection to Claim 13 have been fully considered and are persuasive.

The objection of Claim 13 has been withdrawn. However, the MPEP 2173.05(h) indicates that if “wherein R is a material selected from the group consisting of A, B, C and D” is a proper limitation, then “wherein R is A, B, C and D” shall also be considered proper. Thus, the limitation “wherein the plurality of different communication medium are selected from the group consisting of radio frequency waves, telephone lines, cable lines, fiber optic lines, satellite links, and power lines” in the claim 13 is proper to be considered as the limitation “wherein the plurality of different communication medium are radio frequency waves, telephone lines, cable lines, fiber optic lines, satellite links, or power lines”, and the references of the record suggests the limitation (See paragraph 2 of the instant Office Action, claim rejection under 35 U.S.C. 103(a) as being unpatentable over Thornborough in view of Schnell and Segur).

8. *In response to the Applicant's argument with respect to* “Applicant respectfully disagrees that it would have been obvious to one of ordinary skill in the art to provide each of these independent claim elements of the present invention that are missing from Thornborough based on that which is taught by Schnell and Segur. There is no motivation to combine the Thornborough, Schnell and Segur references, and there is no objective suggestion that such a combination would be preferable, or even successful. ...” on the Response page 7, line 29 through page 8, line 13, the Examiner respectfully disagrees.

In contrary to the Applicant's statement, all the rejections under 35 USC §103(a) in the prior and the instant Office Action established a *prima facie* case of obviousness meeting the three basic criteria of the M.P.E.P. 2143.03 (8th ed. 2001). And, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Examiner has clearly pointed out rationale for appropriate combination of the references. Furthermore, in response to the Applicant's argument that the Examiner's conclusion of obviousness is

based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Thus, the Applicant's argument on this point is not persuasive.

9. *In response to the Applicant's argument with respect to* "Applicants admit that the range of sources available as ... Therefore, formatting a message into a format compatible with a connected communication device on the network, as is described in Claim 12, is inconsistent with the purpose of the Schnell disclosure because Schnell seeks to avoid this very requirement (see, e.g., Schnell col. 1, lines 47 to col. 2, line 20). ... However, as noted above, this motivation is inconsistent with the purpose of the system of Schnell, which seeks to avoid such a requirement. As a result, there is no motivation to combine the Thornborough, Schnell and Segur references." on the Response page 8, line 14 through page 9, line 27, the Examiner respectfully disagrees.

In contrary to the Applicant's allegation, the Examiner has clearly pointed out rationale for appropriate combination of the references Thornborough, Schnell and Segur (See paragraph 3 of the instant Office Action). In fact, the background of Schnell's invention suggests avoiding burdensome conversion of communication (See Schnell, col. 1, line 47 through col. 2, line 20). However, Schnell is silent about avoiding formatting of messages, which is totally different from the Schnell's suggestion, i.e., avoiding burdensome conversion of communication. Furthermore, the Applicant fails to provide the backup basis of the allegation, such that Schnell seeks to avoid formatting a message into a format compatible with a connected communication device on the network. Therefore, the appropriate combination of the references Thornborough, Schnell and Segur with rationale suggests all the limitations of the claimed invention. Thus, the Applicant's argument on this point is not persuasive.

Conclusion

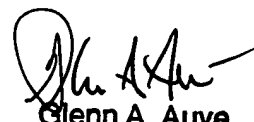
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher E. Lee whose telephone number is 703-305-5950. The examiner can normally be reached on 9:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H. Rinehart can be reached on 703-305-4815. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Christopher E. Lee
Examiner
Art Unit 2189

cel/ 


Glenn A. Auve
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